

In the Claims:

Claims 1 to 11 (Canceled)

1 **12.** (New) A sensor arrangement as a part of a reflection light
2 barrier, said sensor arrangement comprising:

3 a carrier;

4 a photodiode arranged on said carrier;

5 a first light emitting diode arranged on said carrier
6 and adapted to emit a pulsed measuring light beam;

7 a second light emitting diode arranged on said carrier
8 and adapted to emit a reference light beam that is pulsed
9 offset in time relative to the measuring light beam; and

10 a light permeable housing arranged to enclose said
11 photodiode, said first light emitting diode and said second
12 light emitting diode;

13 wherein said second light emitting diode is arranged
14 on said carrier and in said housing such that the reference
15 light beam emitted by said second light emitting diode will
16 be reflected internally by a surface of said housing to be
17 incident onto an upper surface of said photodiode.

1 **13.** (New) The sensor arrangement in accordance with claim 12,
2 wherein said photodiode is arranged on a first plane of
3 said carrier and said second light emitting diode is
4 arranged on a second plane of said carrier offset from said
5 first plane.

- 1 **14.** (New) The sensor arrangement in accordance with claim 13,
2 wherein said first and second planes are offset with
3 respect to one another at least by a height of said
4 photodiode or by a height of said second light emitting
5 diode.
- 1 **15.** (New) The sensor arrangement in accordance with claim 13,
2 wherein said second plane on which said second light
3 emitting diode is arranged is a higher plane than said
4 first plane on which said photodiode is arranged.
- 1 **16.** (New) The sensor arrangement in accordance with claim 12,
2 wherein said carrier comprises a circuit board.
- 1 **17.** (New) The sensor arrangement in accordance with claim 16,
2 wherein said circuit board (1) is a sandwich board having
3 at least two layers.
- 1 **18.** (New) The sensor arrangement in accordance with claim 17,
2 wherein said layers of said carrier board are laminated to
3 one another.
- 1 **19.** (New) The sensor arrangement in accordance with claim 12,
2 wherein said carrier consists of a material that is
3 impermeable to light.

- 1 **20.** (New) The sensor arrangement in accordance with claim 12,
2 wherein said housing is formed by an encapsulant material
3 that is permeable to light.
- 1 **21.** (New) The sensor arrangement in accordance with claim 20,
2 wherein said encapsulant material is an epoxy resin.
- 1 **22.** (New) The sensor arrangement in accordance with claim 12,
2 wherein said housing has a chamfered wall in a region of
3 said second light emitting diode.
- 1 **23.** (New) The sensor arrangement in accordance with claim 22,
2 wherein said chamfered wall is a facet.
- 1 **24.** (New) The sensor arrangement in accordance with claim 22,
2 wherein said chamfered wall extends at a declination angle
3 selected such that the reference light beam emitted from
4 said second light emitting diode will be reflected from
5 said chamfered wall toward said photodiode.
- 1 **25.** (New) The sensor arrangement in accordance with claim 12,
2 further comprising a lens arranged in front of said first
3 light emitting diode and adapted to focus the measuring
4 light beam.
- 1 **26.** (New) The sensor arrangement in accordance with claim 12,
2 wherein said housing is embodied so that the reference

light beam will be reflected internally by a total reflection from said surface of said housing.

27. (New) The sensor arrangement in accordance with claim 12, further comprising a detection unit connected to receive signals from said photodiode and adapted to calculate a portion of ambient light from a difference between a signal generated in said photodiode based on receiving the reference light beam that has been reflected and a signal generated in said photodiode based on receiving the measuring light beam that has been reflected.

28. (New) The sensor arrangement in accordance with claim 12, wherein:

said carrier comprises a first carrier layer, and a second carrier layer laminated onto a partial area of said first carrier layer;

said second carrier layer has a thickness at least equal to or greater than a thickness of said photodiode;

said photodiode is arranged on said first carrier layer at an area not provided with said second carrier layer;

said second light emitting diode is arranged on said second carrier layer; and

said housing, said photodiode, said first light emitting diode and said second light emitting diode are arranged and embodied so that none of the reference light beam emitted by said second light emitting diode will be

incident on any lateral side surface of said photodiode,
and so that the measuring light beam emitted by said first
light emitting diode will exit out of said housing and can
be reflected back to said photodiode from an external
object outside of said sensor arrangement.

29. (New) The sensor arrangement in accordance with claim 28,
wherein said housing is embodied so that the reference
light beam will be reflected internally by a total
reflection from said surface of said housing.

[RESPONSE CONTINUES ON NEXT PAGE]